ABSTRACT

A method and apparatus for searching for a character pattern within a data stream. A checksum is computed for one or more patterns for which the data stream will be searched. The patterns may be of the same length or they may be of different lengths. A shift register is used to sequentially parse through the data stream and compute the checksum of a series of bytes in the data stream. If the checksum of the bytes in the data stream that have been shifted into the register matches the checksum from one of the character patterns, then the character pattern corresponding to the checksum has been found. The system may search multiple character patterns simultaneously by using multiple checksum generators in parallel.

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